

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte Brian Eric Bakke, Timothy Jerry Schimke, Joseph Thomas Writz

Appeal No. _____
Application No. 09/932,140

APPEAL BRIEF

PATENT

IBM/178
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June 17, 2008
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brian Eric Bakke et al. Art Unit: 2113
Application No.: 09/932,140 Examiner: Joseph D. Manoskey
Filed: August 17, 2001
For: METHOD AND APPARATUS FOR PROVIDING REDUNDANT ACCESS TO A
SHARED RESOURCE WITH A SHAREABLE SPARE ADAPTER

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

I. REAL PARTY IN INTEREST

This application is assigned to International Business Machines Corporation, of Armonk, New York.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-29 are pending in the Application. Claims 1-29 stand rejected and are now on appeal. Claim 30 has been canceled.

IV. STATUS OF AMENDMENTS

There have been no amendments filed subsequent to the final rejection mailed January 25, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Applicants' invention relates generally to the access of shared resources within a networked computer environment. More particularly, the invention enables access to the shared resources by controlling a shareable spare adapter that may be configured to replace any of a plurality of access adapters providing access to the shared resources.

Conventional storage area networks (SANs) are capable of providing increased storage capabilities such that "any-to-any" connectivity is provided between servers and storage. The adapters of SANs support interconnects to multiple operating systems and environments. (Application, page 2, lines 4-15). The adapters account for the diverse characteristics, applications, and hardware designs of the resources to which they are physically connected to simplify interconnections and provide a highly configurable and flexible interface for peripheral resources. (Application, page 2, line 18 to page 3, line 3). However, the adapters in SANs remain vulnerable to failure, at which point they must be physically removed and replaced. (Application, page 3 lines 9-16). After removal, the SAN, or at least a portion of the SAN, must be shut down and rebooted, thus causing a significant and intolerable impact on a large number of users and operations. (Application, page 3, line 17 to page 4, line 2). In an attempt to respond to this problem, some designers introduced an architecture in which a backup adapter is allocated for each primary adapter and may intervene to provide a host access to a resource in the event of its primary's failure. (Application, page 4, lines 3-10).

This architecture, however, increases the processing burden on the SANs configured with one backup adapter for each primary adapter in maintaining adapters. The processing burden is also increased for other processes, such as initiating adapter replacement, coordinating the replacement of adapters, and directing all corrective and reconnecting processes. Thus, the

processing requirement to simply maintain this architecture detracts from other processes and retarding system performance. (Application, page 4, lines 11-17). As such, some SANs may be unable to meet the necessary processing requirements, the SANs themselves may become cost prohibitive, or the network design may become over-complicated. (Application, page 4, lines 17-20).

Embodiments consistent with the invention, however, address the drawbacks of conventional SANs by substituting a shareable spare adapter as necessary for any of a plurality of access adapters providing access to a shared resource. Independent claims 1, 15, and 29, for example, respectively recite an apparatus (Application, FIG. 2; page 28, line 14), a method (Application, FIG. 2, block 17; FIGS. 3 and 4; page 5, lines 5-6; page 10, lines 16 and 17; page 19 line 11 to page 25, line 2; and page 30, line 20 to page 31, line 1), and a program product (Application, page 29, lines 16-18) that provide access to the shared resource. In particular, embodiments of the invention provide for an apparatus (Application, Fig. 2; page 28, line 14) comprising a plurality of access adapters (Application, Fig. 2, blocks 32, 36, 40, 42, page 10; lines 11-14), each adapter configured to interface with an electronic resource (Application, Fig. 2, block 17; page 10, lines 16 and 17) and at least one shareable spare adapter (Application, Fig. 2, block 52; page 14, line 15) configured to function as a network interface that removably couples with the electronic resource (Application, Fig. 2, blocks 17 and 52; page 16, lines 7-9). The apparatus further comprises control circuitry configured to assign a correlation token to each of the plurality of access adapters (Application, Fig. 2, blocks 17 and 48; page 9, lines 1-6; page 13, lines 4-9), each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned (Application, page 11, lines 4-20), the control circuitry further configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; and page 12, line 11 to page 13, line 2), wherein the control circuitry is configured to initiate the substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the

substituted access adapter to the shareable spare adapter (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; page 11, lines 4-20; and page 13, lines 1 and 2).

Specific support for the claimed subject matter for the independent claims as a whole has been provided above. Additional support for the claimed subject matter of the independent claims may also generally be found, for example, in Figs 2-5, and at pages 19, lines 11 to page 25, line 2, among other portions of the Application as filed. However, a direct mapping of the aforementioned discussion to the individual independent and dependent claims is presented below:

Independent Claim 1

An apparatus (Application, Fig. 2; page 28, line 14), comprising:

a plurality of access adapters (Application, Fig. 2, blocks 32, 36, 40, 42, page 10; lines 11-14), each adapter configured to interface with an electronic resource (Application, Fig. 2, block 17; page 10, lines 16 and 17);

at least one shareable spare adapter (Application, Fig. 2, block 52; page 14, line 15) configured to function as a network interface that removably couples with the electronic resource (Application, Fig. 2, blocks 17 and 52; page 16, lines 7-9); and

control circuitry configured to assign a correlation token to each of the plurality of access adapters (Application, Fig. 2, blocks 17 and 48; page 9, lines 1-6; and page 13, lines 4-9), each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned (Application, page 11, lines 4-20), the control circuitry further configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; and page 12, line 11 to page 13, line 2), wherein the control circuitry is configured to initiate the substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; page 11, lines 4-20; and page 13, lines 1 and 2).

Independent Claim 15

A method of providing access to a computer resource (Application, Fig. 2, block 17; page 10, lines 16 and 17), wherein a plurality of access adapters (Application, FIG. 2, blocks 32, 36, 40, 42; page 10, lines 11-14) each interface with the computer resource (Application, Fig. 2, block 17; page 10, lines 16 and 17), the method comprising using a shareable spare adapter (Application, Fig. 2, block 52; page 14, line 15) consisting essentially of a circuit board configured to function as a network (Application, Fig. 2, blocks 17 and 52; page 16, lines 7-9), nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters (Application, Fig. 2, blocks 17 and 19; page 9, lines 1-6), wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters (Application, Fig. 2, blocks 17 and 19; page 9, lines 1-6; and page 16, lines 7-9), the method further comprising assigning a correlation token to each of the plurality of access adapters (Application, FIG. 2, blocks 17 and 48; page 9, lines 1-6; and page 13, lines 4-9), each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation token is assigned (Application, page 11, lines 4-20), wherein using the shareable spare adapter to supplant the interface provided by the first adapter includes reassigning the correlation token assigned to the first access adapter to the shareable spare adapter (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; page 11, lines 4-20; and page 13, lines 1 and 2).

Independent Claim 29

A program product (Application, page 29; lines 16-18), comprising:
a program for providing access to a computer resource (Application, Fig. 2, block 17; page 10, lines 16 and 17), wherein a plurality of access adapters (Application, FIG. 2, blocks 32, 36, 40, 42; page 10, lines 11-14) each interface with the computer resource (Application, Fig. 2, block 17; page 10, lines 16 and 17), the program configured to use a shareable spare adapter (Application, Fig. 2, block 52; page 14, line 15) consisting essentially of a circuit board configured to function as a network (Application, Fig. 2, blocks 17 and 52; page 9, lines 1-6),

nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters (Application, Fig. 2, blocks 17 and 19; page 9, lines 1-6; and page 16, lines 7-9), wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters, the program further configured to assign a correlation token to each of the plurality of access adapters (Application, Fig. 2, blocks 17 and 48; page 9, lines 1-6; and page 13, lines 4-9), each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation token is assigned (Application, page 11, lines 4-20), wherein the program is configured to use the shareable spare adapter to supplant the interface provided by the first adapter by reassigning the correlation token assigned to the first access adapter to the shareable spare adapter (Application, FIG. 2, blocks 17 and 19; page 9, lines 1-6; page 11, lines 4-20; and page 13, lines 1 and 2); and

a computer-readable signal bearing recordable media (Application, page 29, line 14 to page 30, line 4) bearing the program.

Other features are recited in the dependent claims, and will be discussed in greater detail in the arguments section below. In addition, it should be noted that, as none of the claims recite any means plus function or step plus function elements, no identification of such elements is required pursuant to 37 CFR §41.37(c)(1)(v). Furthermore, there is no requirement in 37 CFR §41.37(c)(1)(v) to provide support for the subject matter in the separately argued dependent claims, as none of these claims recite means plus function or step plus function elements, and so no summary of any of these claims is provided herein.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,408,343 to Erickson et al. (hereinafter, *Erickson*) in view of U.S. Patent No. 5,964,887 to Conseil (hereinafter, *Conseil*).

VII. ARGUMENT

Applicants respectfully submit that the Examiner's rejections of claims 1-29 are not supported on the record, and should be reversed. All the claims have been rejected as being obvious over the prior art cited by the Examiner. Applicants respectfully submit that, in the instant case, the Examiner has failed to establish a *prima facie* case of obviousness as to the aforementioned claims, and as such, the rejections thereof should be reversed.

Based on the Supreme Court's decision in KSR International Co. v. Teleflex Inc., 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1382 (2007), a *prima facie* showing of obviousness still requires that the Examiner establish that the differences between a claimed invention and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. §103(a). Such a showing requires that all claimed features be disclosed or suggested by the prior art. Four factors generally control an obviousness inquiry: 1) the scope and content of the prior art; 2) the differences between the prior art and the claims; 3) the level of ordinary skill in the pertinent art; and 4) secondary considerations of non-obviousness, such as commercial success of products covered by the patent claims, a long felt but unresolved need for the invention, and failed attempts by others to make the invention. KSR, 127 S. Ct. at 1734 (quoting Graham v. John Deere Company, 383 U.S. 1, 17-18 (1966)) ("While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.").

Moreover, in KSR, the Court explained that "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue" and "[t]o facilitate review, this analysis should be made explicit." KSR, 127 S.Ct. at 1740-41 citing In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated

reasoning with some rational underpinning to support the legal conclusion of obviousness.”). But, not every combination is obvious “because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.” KSR, 127 S. Ct. at 1741.

As a result, after KSR, while there is no rigid requirement for an explicit “teaching, suggestion or motivation” to combine references, there still must be some evidence of “a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does” in an obviousness determination. KSR, 127 S. Ct. at 1731.

Applicants respectfully submit that, in the instant case, the Examiner has failed to establish a *prima facie* case of obviousness as to claims 1-29, and as such, the rejections thereof should be reversed. Applicants’ remarks in rebuttal to the Examiner’s rejections are presented below, starting with relevant independent claims, and continuing with selected dependent claims that warrant separate mention. In some cases, specific discussions of particular claims are not made in the interests of streamlining this appeal. The omission of a discussion with respect to any particular claim, however, should not be interpreted as an acquiescence as to the merits of the Examiner’s rejection of the claim, particularly with respect to claims reciting features that are addressed in connection with the rejections applied to other claims pending in the appeal.

A. Claims 1-29 are patentable over *Erickson* in view of *Conseil*

Independent Claim 1

Claim 1 generally recites an apparatus, comprising a plurality of access adapters, each adapter configured to interface with an electronic resource, at least one shareable spare adapter configured to function as a network interface that removably couples with the electronic resource, and control circuitry configured to assign a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned, the control circuitry

further configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource, wherein the control circuitry is configured to initiate the substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter.

In rejecting claim 1, the Examiner relies on a combination of *Erickson* and *Conseil*. *Erickson* generally discloses a master and redundant SCSI adapter that can access a plurality of SCSI disk drives. *Conseil* generally discloses a method to achieve data integrity between the memories of two stations. The Examiner asserts that *Erickson* discloses multiple hot-swappable adapters connected to disk drives and external hosts that automatically self-configure and failover to redundant adapters. The Examiner thereby asserts on pages 2 and 3 of the Final Official Action that *Erickson* discloses “an apparatus comprising a plurality of access adapters, each adapter configured to interface with an electronic resource...at least one shareable spare adapter configured to function as a network interface that removably couples with the electronic resource...[and] control circuitry configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource.”

However, the Examiner expressly admits on page 3 of the Final Official Action that *Erickson* “does not teach [assigning] a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned, and wherein the control circuitry is configured to initiate a substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter.” Indeed, *Erickson* is silent with respect to the concept of correlation tokens, let alone the concepts of assigning or reassigning correlation tokens. Thus, the Examiner relies upon the combination of *Erickson* and *Conseil* to reject claims 1-29. *Conseil*, however, fails to address the shortcomings of *Erickson*.

First, the Examiner asserts on page 3 of the Final Official Action that *Conseil* discloses a “correlation token” in col. 1, lines 36-67. *Conseil*, however, merely discloses a generic identifier, labeled “token,” contained in both a first and second station indicating the state of those stations. In particular, col. 2, lines 36 to 54 describe the identifier, and its function, as follows:

“Each of the two memories 3a and 3b contains an identifier identifying the station that has the most recent data. The identifier (or token) is suitable for taking up one of two states that are referred to below as “present” and “absent”. The token is present in the persistent memory (3a or 3b) only if the station (1a or 1b respectively) has more recent data in its mass memory (2a or 2b respectively) than the other station.

Two immediate consequences can be drawn from this rule:

it is impossible for the token to be present in both stations at the same time; and during normal (or nominal) operation, since neither of the stations has more recent data than the other station in its mass memory, the token is present in neither of the two stations.

In order to satisfy these general principles and to solve the problems posed, the acquisition condition consists in causing the token to go from the “absent” state to the “present” state in a station only if the other station becomes non-operational.”

The “token” of *Conseil* is distinguishable from the “correlation token” of the claimed invention because the identifier of *Conseil* is nothing more than a flag indicating an absent or present “state.” See *Conseil*, col. 1 lines 46-49. More importantly, the identifier in *Conseil* fails to correlate to anything, a necessary function for a “correlation token.” “Correlation” is defined by the American Heritage Dictionary as “[a] causal, complementary, parallel, or reciprocal relationship, especially a structural, functional, or qualitative correspondence between two comparable entities.” The “correlation token” of the claimed invention “allow[s] a host and an access adapter to pair up across the interconnect fabric” and “may comprise any data or designator suitable to identify an adapter.” (Application, page 11, lines 4-8). Furthermore, the correlation token of the present invention “may be further associated with information that instructs the host system and/or the access adapter as to which [logical units] of the shared resource 17 should be accessed.” (Application, page 11, lines 12-14). As such, a “correlation token” of the claimed invention may include information to correlate a host to an access adapter

and/or to correlate an access adapter to particular electronic resources. The “tokens” of *Conseil*, however, fail to perform any “correlation” between two comparable entities, and as such, they cannot be relied upon to serve as “correlation tokens” within the context of Applicants’ claimed invention.

Second, the Examiner asserts on page 3 of the Final Official Action that *Conseil* discloses that “the token is passed.” Applicants respectfully disagree with the Examiner’s interpretation of the teachings of *Conseil*, and believe that the rejection is improper. *Conseil* fails to disclose or suggest an identifier being “passed.” “Pass,” as a verb, is defined by the American Heritage Dictionary as “[t]o be transferred from one to another; circulate” and “[t]o cause to be transferred from one to another; circulate.” As discussed above in connection with col. 2, lines 36 to 54, each station in *Conseil* is configured with a static identifier that has either the state of “present” or “absent.” Normally, the identifiers on each station have the state of “absent.”¹ When a first station has an identifier with the state of “present” (i.e., the first station has more recent data in its memory than the second station, or the second station is non-operational) neither identifier is passed between the stations.

The correlation tokens of the claimed invention, however, are passed during a reassignment from an access adapter to a shareable spare adapter. (Application, FIG. 3, blocks 68 and 72; page 12, lines 15-20; page 14, lines 16-18; and page 21, lines 11-19). The identifiers of *Conseil* remain static and are not “passed” between the two stations. Applicants submit that the Examiner’s assertion that *Conseil* passes its “tokens” is not supported by the reference. Therefore, *Conseil* cannot be relied upon to disclose or suggest “reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter” within the context of Applicants’ claimed invention.

Third, *Conseil* fails to disclose “control circuitry configured to assign a correlation token to each of the plurality of access adapters.” In the most recent Final Official Action, the

¹ *Conseil* discloses that the states of the identifiers can be “present” or “absent,” but this does not mean that when identifiers have a state of “absent” they are “removed.” Rather, the identifiers are “state” identifiers, which are not “removed” when the state is “absent.”

Examiner has not even addressed this aspect of the claimed invention. For example, the Examiner asserts on page 3 of the Final Official Action that *Conseil* “teaches the use of a token stored to a station” in col. 1, lines 39-67. *Conseil*, at most, discloses that the identifiers are “contained” in the memory of each station in col. 2, lines 36-37. However, claim 1 specifies that the “control circuitry [is] configured to assign” the correlation token to an access adapter, not merely that the correlation token is “contained” in an access adapter. “Assign” is defined by the American Heritage Dictionary as “[t]o set apart for a particular purpose; designate,” whereas “store” is defined as “[i]n reserve.” Thus, “assign,” in the context of the claimed invention, means “to set apart something in a particular place for a particular purpose.”

The Examiner is correct that *Conseil* keeps the identifiers “stored,” or “in reserve,” in the memory of each station. However, *Conseil* fails to disclose putting the identifiers in a particular station for a particular purpose. Claim 1 recites putting a correlation token in a particular adapter for a particular purpose, namely providing information to correlate a host to the particular adapter and/or to correlate the particular adapter to particular electronic resources. The Examiner has failed to address this aspect of the claim. Instead, the Examiner has made a conclusory statement that the ends of *Conseil* (i.e., identifiers in reserve in the memory) are the same as the means of the claimed invention (i.e., putting a correlation token in an access adapter for a particular purpose), when neither the ends nor the means of either are the same. As such, *Conseil* cannot be relied upon to disclose or suggest “control circuitry configured to assign a correlation token to each of the plurality of access adapters” within the context of Applicants’ claimed invention.

Applicants also respectfully submit that the Examiner’s proposed combination of *Erickson* and *Conseil* would not make the claimed invention “obvious...to a person having ordinary skill in the art.” 35 U.S.C. §103(a). The Examiner’s proposed combination would produce a master and redundant SCSI adapter, with each adapter configured to access a plurality of SCSI disk drives, and with each adapter connected by way of a SCSI bus to a first and second computer, respectively. Each adapter would have an identifier in reserve that indicated whether the first or second SCSI adapter had new data to write to the SCSI disk drives and whether that

data needed to be synchronized with the second or first SCSI adapter, respectively. The identifier would also indicate whether the other SCSI adapter was non-operational. The proposed combination, however, fails to assign anything analogous to a correlation token to the SCSI adapters, nor does the proposed combination initiate a substitution of one SCSI adapter for another by reassigning anything analogous to a correlation token.

The combination of *Erickson* and *Conseil* therefore falls short of disclosing each and every feature of claim 1. Claim 1 discloses an apparatus comprising a plurality of access adapters, each adapter configured to interface with an electronic resource, at least one shareable spare adapter configured to function as a network interface that removably couples with the electronic resource, and control circuitry configured to assign a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned, the control circuitry further configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource, wherein the control circuitry is configured to initiate the substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter. In particular, both *Erickson* nor *Conseil* fail to disclose or suggest, for example, assigning a correlation token to each of the plurality of access adapters, a correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned, control circuitry configured to initiate a substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter, as well as other limitations of claim 1. Thus, the combination of *Erickson* and *Conseil* still fails to teach or suggest all elements of claim 1, a requirement that has not changed after KSR.

Furthermore, Applicants submit that there is no objective reason why one of ordinary skill in the art would be motivated by *Conseil's* data integrity method or any other prior art of record to modify *Erickson's* master and redundant SCSI adapters to include reassignable

correlation tokens. In addition, irrespective of this failure, the combination of *Erickson* and *Conseil* still fails to include all the limitations of the current claimed invention. Indeed, a sufficient reason or explicit analysis of why the disclosures of redundant SCSI devices and data integrity methods should be combined has not been provided, nor has any analysis been provided as to how this combination would suggest the incorporation of reassignable correlation tokens into *Erickson*'s disclosed system. Therefore, Applicants also respectfully submit that the Examiner's rejection is improperly reliant on hindsight.

For example, on page 3 of the Final Official Action the Examiner asserts that a combination of *Erickson* and *Conseil* would render the claimed invention obvious to one of ordinary skill in the art because "*Erickson* does teach failover of the adapters using a state transition diagram, where one state is standby and another is active." This rationale is all encompassing and another conclusory statement that the ends of *Erickson* (i.e., redundant adapters) are the same as the means of the claimed invention (i.e., all the limitations of claim 1). By that rationale, the Examiner might have been able to assert that Eli Whitney's cotton gin would have been obvious to one of ordinary skill in the art, as the ends (i.e., ridding cotton of seeds) are the same as the means (i.e., the mechanical cotton gin). Obviously, this *ex post facto* reasoning does not satisfy the requirements of KSR. KSR, 127 S. Ct. at 1740-41, citing In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

Therefore, Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness as to claim 1. Reversal of the Examiner's rejection and allowance of claim 1, and of claims 2-14 which depend therefrom, are therefore respectfully requested.

Dependent Claims 2-8

Dependent claims 2-8 are not argued separately.

Dependent Claim 9

Claim 9 generally recites the apparatus of independent claim 1, and additionally recites that the control circuitry initiates a removal of a correlation token from an access adapter. In rejecting claim 9, the Examiner alleges that *Erickson* discloses a transition from a standby state to an active state in FIG. 9, while *Conseil* discloses that the “system must be capable of switching over to the back-up station when the active station fails, the back-up station then becoming the active station. However, Applicants respectfully submit that neither reference discloses or suggests the limitations of claim 1 or initiating the removal of a correlation token from an access adapter. As discussed above, both *Erickson* and *Conseil* fail to disclose or suggest “passing” a correlation token. In a corollary to that, both *Erickson* and *Conseil* fail to disclose “removing” a correlation token as well. As previously discussed, the tokens in *Conseil* merely change “states” from “absent” to “present.” See *Conseil*, col. 1, lines 46-49. As such, the tokens of *Conseil* are neither “passed” as recited in claim 1, nor are they “removed” as recited in claim 9. Rather, the tokens of *Conseil* merely indicate which station of two redundant stations can perform operations. Thus, the combination of *Erickson* and *Conseil* still fails to teach or suggest all elements of claim 9, and Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness as to claim 9. Reversal of the Examiner’s rejection and allowance of claim 9, and of claims 10 and 11 that depend therefrom, are therefore respectfully requested.

Dependent Claim 10

Claim 10 generally recites the apparatus of claim 9, and additionally recites that the control circuitry initiates an assignment of the correlation token to the shareable spare adapter. In rejecting this claim, the Examiner alleges that *Conseil* discloses using the token to pass the identity to the back-up in col. 1, lines 15-17 and 46-49. In particular, col. 1 lines 15-17 of *Conseil* merely disclose that “[t]he system must be capable of switching over to the back-up station when the active station fails, the back-up station then becoming the active station.” Thus, this passage merely illustrates the need for a system to switch from primary to backup during a failure. Col. 1, lines 46-49 fail to alleviate this deficiency, as that passage discloses that:

“For this purpose, the method of the invention consists in using an identifier (or token) under a well-defined protocol, which identifier is contained in a persistent memory and can take up either the “absent” state or the “present” state.”

Therefore, just as *Conseil* fails to disclose “passing” or “removing” correlation tokens, so to does *Conseil* fail to disclose “assigning” correlation tokens, and particularly the assignment of a correlation token to a shareable spare adapter as recited in claim 10 when that correlation token was removed from an access adapter as recited in claim 9. “Assign” is defined by the American Heritage Dictionary means “to allot,” while “allot” means “to distribute or parcel out.” Applicants respectfully submit that *Conseil* fails to disclose or suggest distributing correlation tokens when the “tokens” of *Conseil* are merely configured to change states. Thus, the combination of *Erickson* and *Conseil* still fails to teach or suggest all elements of claim 10, and Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness as to claim 10. Reversal of the Examiner’s rejection and allowance of claim 10 are therefore respectfully requested.

Dependent Claims 11-14

Dependent claims 11-14 are not argued separately.

Independent Claim 15

Claim 15 generally recites a method of providing access to a computer resource, wherein a plurality of access adapters each interface with the computer resource, the method comprising using a shareable spare adapter consisting essentially of a circuit board configured to function as a network, nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters, wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters. The method further comprises assigning a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation

token is assigned, wherein using the shareable spare adapter to supplant the interface provided by the first adapter includes reassigning the correlation token assigned to the first access adapter to the shareable spare adapter.

As discussed above in connection with claim 1, this combination of features is not disclosed or suggested by the combination of *Erickson* and *Conseil*. The Examiner's proposed combination does not disclose or suggest, among other features, the reassignment of correlation tokens between an access adapter and a shareable spare adapter. Accordingly, claim 15 is non-obvious over these references for the same reasons as presented above for claim 1. Reversal of the Examiner's rejection and allowance of claim 15, and of claims 16-28 which depend therefrom, are therefore respectfully requested.

Dependent Claims 16-21

Dependent claims 16-21 are not argued separately.

Dependent Claim 22

Claim 22 generally recites the method of claim 15, further comprising removing a correlation token from the second access adapter. As discussed above in connection with claim 9, the combination of *Erickson* and *Conseil* still fails to disclose or suggest removing a correlation token from the second access adapter. Accordingly, claim 22 is non-obvious over these references for the same reasons as presented above for claim 9. Reversal of the Examiner's rejection and allowance of claim 22, and of claims 23 and 24 which depend therefrom, are therefore respectfully requested.

Dependent Claim 23

Claim 23 generally recites the method of claim 22, further comprising assigning the correlation token to the shareable spare adapter. As discussed above in connection with claim 10, the combination of *Erickson* and *Conseil* still fails to disclose or suggest assigning the correlation token to the shareable spare adapter. Accordingly, claim 23 is non-obvious over

these references for the same reasons as presented above for claim 10. Reversal of the Examiner's rejection and allowance of claim 23 are therefore respectfully requested.

Dependent Claims 24-28

Dependent claims 24-28 are not argued separately

Independent Claim 29

Claim 29 generally recites a program product, comprising a program for providing access to a computer resource, wherein a plurality of access adapters each interface with the computer resource, the program configured to use a shareable spare adapter consisting essentially of a circuit board configured to function as a network, nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters, wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters. The program is further configured to assign a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation token is assigned, wherein the program is configured to use the shareable spare adapter to supplant the interface provided by the first adapter by reassigning the correlation token assigned to the first access adapter to the shareable spare adapter. The program product further comprises a computer-readable signal bearing recordable media bearing the program.

As discussed above in connection with claim 1, this combination of features is not disclosed or suggested by the combination of *Erickson* and *Conseil*. The Examiner's proposed combination does not disclose or suggest, among other features, the reassignment of correlation tokens between an access adapter and a shareable spare adapter. Accordingly, claim 29 is non-obvious over these references for the same reasons as presented above for claim 1. Reversal of the Examiner's rejection and allowance of claim 29 are therefore respectfully requested.

CONCLUSION

In conclusion, Applicants respectfully request that the Board reverse the Examiner's rejections of claims 1-29, and that the Application be passed to issue. If there are any questions regarding the foregoing, please contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

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Date: June 17, 2008

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VIII. CLAIMS APPENDIX: CLAIMS ON APPEAL (S/N 09/932,140)

1. (Previously Presented) An apparatus, comprising:
 - a plurality of access adapters, each adapter configured to interface with an electronic resource;
 - at least one shareable spare adapter configured to function as a network interface that removably couples with the electronic resource; and
 - control circuitry configured to assign a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing an electronic resource via the access adapter to which such correlation token is assigned, the control circuitry further configured to initiate a substitution of the shareable spare adapter for any of the plurality of access adapters to supplant a substituted access adapter without intervention by any server in electronic communication with the electronic resource, wherein the control circuitry is configured to initiate the substitution of the shareable spare adapter for the substituted access adapter by reassigning the correlation token assigned to the substituted access adapter to the shareable spare adapter.
2. (Original) An apparatus according to claim 1, wherein the control circuitry initiates the substitution in response to an event.
3. (Original) An apparatus according to claim 2, wherein the control circuitry initiates monitoring of the event.
4. (Original) An apparatus according to claim 2, wherein the control circuitry initiates notification procedures regarding the event.
5. (Original) An apparatus according to claim 2, wherein the event includes a change in a heartbeat signal transmitted by an access adapter.

6. (Original) An apparatus according to claim 2, wherein the control circuitry initiates monitoring a process that monitors the event.
7. (Previously Presented) An apparatus according to claim 1, wherein a port of an access adapter of the plurality of access adapters interfaces with only a subset of the electronic resource.
8. (Original) An apparatus according to claim 1, wherein the control circuitry initiates a reconfiguration of an access adapter into a second shareable spare adapter.
9. (Original) An apparatus according to claim 1, wherein the control circuitry initiates a removal of a correlation token from an access adapter.
10. (Original) An apparatus according to claim 9, wherein the control circuitry initiates an assignment of the correlation token to the shareable spare adapter.
11. (Original) An apparatus according to claim 9, wherein the control circuitry initiates an evaluation of the correlation token.
12. (Original) An apparatus according to claim 1, wherein the control circuitry initiates a replacement of an access adapter.
13. (Original) An apparatus according to claim 1, wherein the control circuitry initiates a disablement of the shareable spare adapter.
14. (Original) An apparatus according to claim 1, wherein the control circuitry initiates disabling an access adapter.
15. (Previously Presented) A method of providing access to a computer resource, wherein a plurality of access adapters each interface with the computer resource, the method comprising using a shareable spare adapter consisting essentially of a circuit board configured to

function as a network, nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters, wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters, the method further comprising assigning a correlation token to each of the plurality of access adapters, each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation token is assigned, wherein using the shareable spare adapter to supplant the interface provided by the first adapter includes reassigning the correlation token assigned to the first access adapter to the shareable spare adapter.

16. (Original) The method according to claim 15, wherein the shareable spare adapter is additionally configured to supplant a third interface provided by any of the plurality of access adapters.

17. (Original) The method according to claim 15, further comprising supplanting the interface in response to an event.

18. (Original) The method according to claim 17, further comprising monitoring of the event.

19. (Original) The method according to claim 17, further comprising initiating notification procedures regarding the event.

20. (Original) The method according to claim 17, further comprising monitoring a process that monitors the event.

21. (Original) The method according to claim 15, further comprising reconfiguring the first access adapter into a second shareable spare adapter.

22. (Original) The method according to claim 15, further comprising removing a correlation token from the second access adapter.
23. (Original) The method according to claim 22, further comprising assigning the correlation token to the shareable spare adapter.
24. (Original) The method according to claim 22, further comprising evaluating the correlation token.
25. (Original) The method according to claim 15, further comprising replacing the second access adapter.
26. (Original) The method according to claim 15, further comprising disabling the shareable spare adapter.
27. (Original) The method according to claim 15, further comprising disabling the second access adapter.
28. (Previously Presented) The method according to claim 15, wherein each of the first and second adapters access a different subset of the computer resource.
29. (Previously Presented) A program product, comprising:
a program for providing access to a computer resource, wherein a plurality of access adapters each interface with the computer resource, the program configured to use a shareable spare adapter consisting essentially of a circuit board configured to function as a network, nonuser interface that removably couples with the computer resource and to supplant an interface provided by a first adapter of the plurality of access adapters, wherein the shareable spare adapter is additionally configured to supplant a second interface provided by a second access adapter of the plurality of access adapters, the program further configured to assign a correlation token to each of the plurality of access

adapters, each correlation token for use in connection with accessing the computer resource via the access adapter to which such correlation token is assigned, wherein the program is configured to use the shareable spare adapter to supplant the interface provided by the first adapter by reassigning the correlation token assigned to the first access adapter to the shareable spare adapter; and

a computer-readable signal bearing recordable media bearing the program.

30. (Cancelled)

IX. EVIDENCE APPENDIX

09/932,140

None.

X. RELATED PROCEEDINGS APPENDIX

09/932,140

None.